

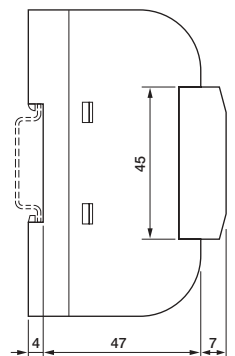
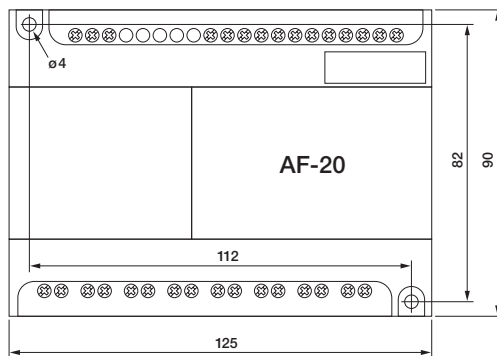
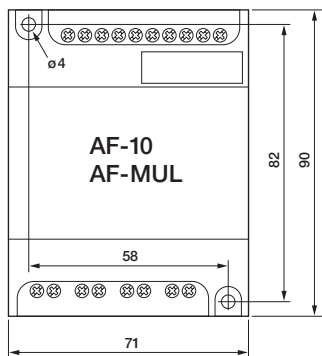
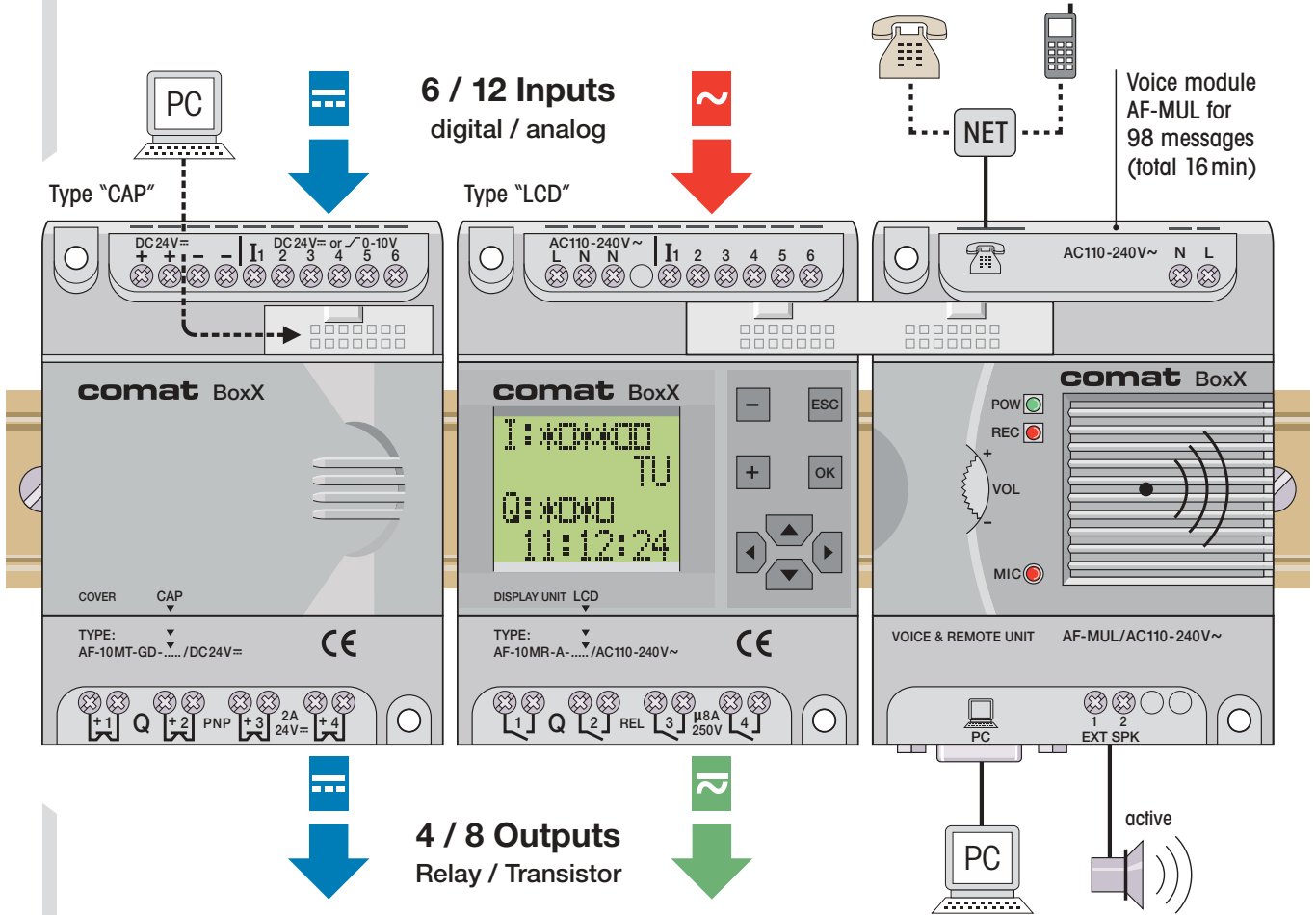
- ✓ Programming via snap-on display or with PC
- ✓ Remote controlling and voice message over telephone network or Cellular phone
- ✓ Remote maintenance and remote operation
- ✓ Network capability up to 3'060 inputs / 2'040 outputs
- ✓ Comprehensive function block library
- ✓ Programmable timers
- ✓ Password protected    ✓ Real time clock

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# The Controller

<b>127</b>	Function blocks	• Program storage	64 kByte
	Intermediate relays	• Time range	0,01s-99,99h
	Timer instructions	• Counting values	1-999'999
	(up to the year 2099)	• System timer back up	100h



## The Application

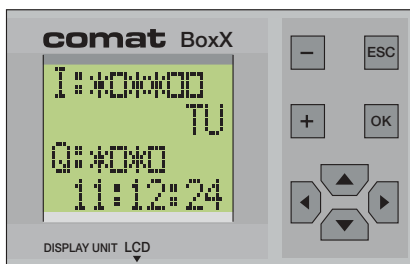
The Comat BoxX can be programmed by PC or with the Snap-on LCD display with integrated function keys.

It is possible to modify time intervals of the function blocks in the existing control program on site directly on to the installation.

The LCD display can be connected to the Comat BoxX to visualize conditions or may be removed (without voltage) and used on another Comat BoxX.

The 24V versions of the Comat BoxX can also process analogue signals 0...10V with increments of 0.1V. All inputs can be used or configured at random as analogue or digital inputs.

Function blocks for the comparison of analogue values are available, i.e. to monitor temperature in a heating system.



### Setting the display

### Analogue inputs



### Programming software

The programming software QUICK II allows easy and transparent programming of the Comat BoxX with a PC.

QUICK II is based on Windows®. 127 function blocks can be stored inside the program memory of the Comat BoxX.

Stored programs cannot be lost even during a power loss. Therefore back up batteries are not needed.

With the simulation tool, the set up can be tested on the PC before commissioning.

### Programming the function blocks

Control tasks can be solved easily with the function blocks available in the library.

Programming codes in a high-level program language are not required. Simply place the corresponding function blocks and link them with other function blocks according to the required control function.




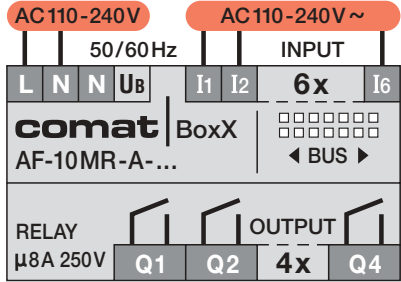
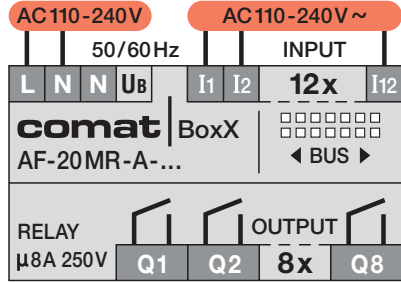


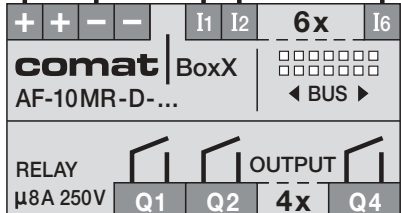
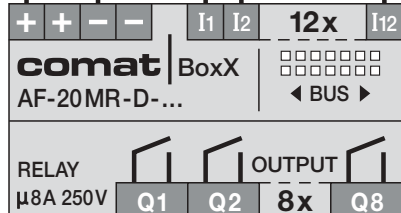


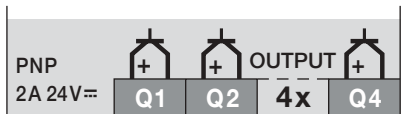
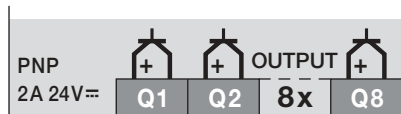
### Visualization



Networks must and single devices can be monitored and operated with the visualization software SCADA 2.2 on the PC.

With SCADA it is possible to generate an individual user interface. All data and statuses can be visualized with SCADA and transferred to a standard software, for example Microsoft® Excel for further processing.

## The Types

 <p>6/12 Inputs digital AC110-240V</p> <p>4/8 Outputs relays 8A 250V~</p> <p>Order no.</p>	 <p><b>6 INPUTS</b> <b>4 OUTPUTS</b></p>	 <p><b>12 INPUTS</b> <b>8 OUTPUTS</b></p>
	 <p>AC110-240V 50/60Hz INPUT I1 I2 6x I6</p> <p>comat BoxX AF-10MR-A-... &lt; BUS &gt;</p> <p>RELAY μ8A 250V Q1 Q2 4x Q4</p>	 <p>AC110-240V 50/60Hz INPUT I1 I2 12x I12</p> <p>comat BoxX AF-20MR-A-... &lt; BUS &gt;</p> <p>RELAY μ8A 250V Q1 Q2 8x Q8</p>
	without display: AF-10MR-A-CAP/AC110-240V with display: AF-10MR-A-LCD/AC110-240V	without display: AF-20MR-A-CAP/AC110-240V with display: AF-20MR-A-LCD/AC110-240V
	 <p>6/12 Inputs configurable: digital / analog 0-10V (0,1V)</p> <p>4/8 Outputs relays 8A 250V~</p> <p>Order no.</p>	 <p><b>DC 24V=</b></p>
 <p>DC 24V= INPUT I1 I2 6x I6</p> <p>comat BoxX AF-10MR-D-... &lt; BUS &gt;</p> <p>RELAY μ8A 250V Q1 Q2 4x Q4</p>	 <p>DC 24V= INPUT I1 I2 12x I12</p> <p>comat BoxX AF-20MR-D-... &lt; BUS &gt;</p> <p>RELAY μ8A 250V Q1 Q2 8x Q8</p>	
without display: AF-10MR-D-CAP/DC 24V with display: AF-10MR-D-LCD/DC 24V	without display: AF-20MR-D-CAP/DC 24V with display: AF-20MR-D-LCD/DC 24V	
<p>4/8 Transistor outputs PNP 2A 24V=</p> <p>Order no.</p>	 <p><b>PNP 2A 24V=</b></p>	 <p><b>PNP 2A 24V=</b></p>
 <p>PNP OUTPUT Q1 Q2 4x Q4</p>	 <p>PNP OUTPUT Q1 Q2 8x Q8</p>	
without display: AF-10MT-GD-CAP/DC 24V with display: AF-10MT-GD-LCD/DC 24V	without display: AF-20MT-GD-CAP/DC 24V with display: AF-20MT-GD-LCD/DC 24V	
<p>Accessories</p>	<p>Order no.</p> <p>AF-MUL/AC110-240V Voice and remote unit<sup>1)</sup></p> <p>AF-RS232 MUL Programming cable</p> <p>AF-BC AF-MUL Bridge connector<sup>2)</sup></p> <p>AF-P485 Bus Interface connector</p> <p>AF-C485 Bus Cable</p> <p><sup>1)</sup> AF-BC included in delivery <sup>2)</sup> included with AF-MUL</p>	<p>Order no.</p> <p>AF-MOD Modem</p> <p>AF-C232 Programming cable</p> <p>AF-M232 Modem Interface connector</p> <p>AF-LCD Display with function keys</p> <p>AF-CAP Cover (instead of AF-LCD)</p> <p>AF-CDR1 CD-ROM</p>

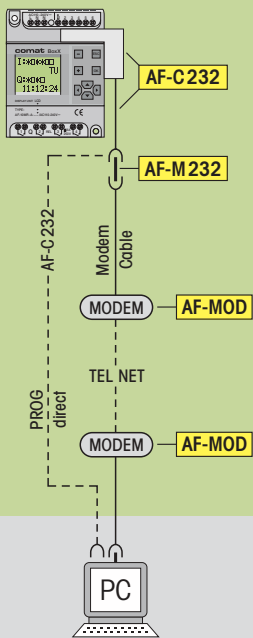
## The Data

	AF-10	AF-20	AF-MUL
Operating voltage U <sub>B</sub>	AC110-240V~ 50/60Hz DC24V= ☹ max. 10%		
Power consumption	3VA/1,5W	5VA/1,5W	0,8VA
Switching power	☹ 8A 250V~ ⚡ 2A 24V=		
Ambience conditions	T <sub>u</sub> without display -25 ... +55 °C	T <sub>u</sub> with display 0 ... +55 °C	Rel. humidity: 5 ... 95 % Protection IP20

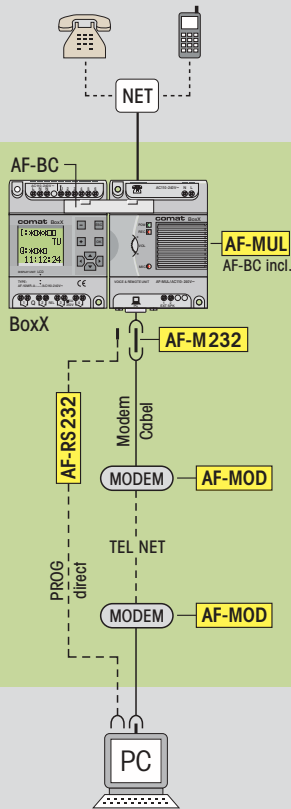
## The Extension module

Remote maintenance and remote operations with voice message

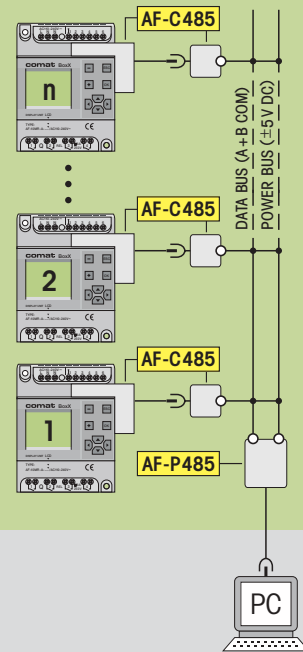
## Networking



Remote maintenance



Each Comat BoxX can be controlled via a telephone line if connected to the extension module AF-MUL (voice & remote unit). The AF-MUL will answer calls and allows access after the password is accepted. The Comat BoxX with the AF-MUL is able to broadcast up to 98 predefined conditions, for example alarms, over the phone network. The designated phone number is dialled and the recorded message is played over the telephone. The message can also be broadcast over auxiliary loudspeakers.



SCADA 2.2 is a visualization software for connection of up to 255 Comat BoxX in a network. The system is PC controlled and allows the operation of the Comat BoxX as a remote control unit. SCADA 2.2 allows fast implementation and configuration of the whole network. Status can be checked and subsequently be stored or visualized.